Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) An assay for determining ~~level of~~ amount of prostacyclin in a plasma sample comprising:

(1) providing a plasma sample on a surface coated with an anti-immunoglobulin antibody;

(2) incubating the plasma sample with an effective amount of an anti-6-keto-prostaglandin $F_{1\alpha}$ (6-keto-$PGF_{1\alpha}$) antibody[[;]] wherein the [[an]] anti-immunoglobulin antibody ~~that~~ binds to the anti-6-keto-$PGF_{1\alpha}$-antibody; and a conjugate comprising 6-keto-$PGF_{1\alpha}$ covalently bound to an aequorin mutant;

wherein said aequorin mutant comprises serine ~~subsitutions~~ substitutions for all three cysteine residues as present in wild-type aequorin (Cys → Ser), wherein said aequorin mutant further comprises a single cysteine residue substituted at amino acid position 69 (Ala69 → Cys), 70 (Gly70 → Cys), 74(Gly74 → Cys) or 76 (Glu76 → Cys), and

wherein the 6-keto-$PGF_{1\alpha}$ is coupled to the aequorin mutant via reaction with the sulfhydryl group of the single cysteine;

(3) removing any unbound anti-6-keto-$PGF_{1\alpha}$-antibody and said conjugate ~~from the plasma sample~~ following incubation; ~~and~~

(4) measuring ~~and correlating~~ light intensity of the 6-keto-$PGF_{1\alpha}$ bound to the anti-immunoglobulin antibody ~~plasma sample; and with amount of prostacyclin within the plasma sample~~

(5) correlating the light intensity of the bound 6-keto-$PGF_{1\alpha}$ ~~plasma sample,~~ with the amount of prostacyclin in the plasma sample.

2. (Cancelled)

3. (Cancelled).

4. (Original) The assay of claim 1 wherein the plasma sample is obtained from a patient receiving intravenous prostaglandin therapy.

5. (Currently Amended) The assay of claim 1 wherein ~~the concentration of~~ said conjugate in the assay has a concentration of [[is]] about 1×10^{-10} M.

6. (Cancelled).

7. (Cancelled).

8. (Currently Amended) A method of determining ~~an appropriate dose of~~ amount of prostaglandin in a plasma sample ~~for the treatment of primary pulmonary hypertension in a patient~~ comprising:

(1) providing a plasma sample from the patient on a surface coated with an anti-immunoglobulin antibody;

(2) incubating the plasma sample with an effective amount of an anti-6-keto-prostaglandin $F_{1\alpha}$ (6-keto-$PGF_{1\alpha}$) antibody[[;]] wherein the [[an]] anti-immunoglobulin antibody ~~that~~ binds to the anti-6-keto-$PGF_{1\alpha}$-antibody; and a conjugate comprising 6-keto-$PGF_{1\alpha}$ covalently bound to an aequorin mutant;

wherein said aequorin mutant comprises serine ~~subsitutions~~ substitutions for all three cysteine residues as present in wild-type aequorin (Cys → Ser), wherein said aequorin mutant further comprises a single cysteine residue substituted at amino acid position 69 (Ala69 → Cys), 70 (Gly70 → Cys), 74(Gly74 → Cys) or 76 (Glu76 → Cys), and

wherein the 6-keto-$PGF_{1\alpha}$ is coupled to the aequorin mutant via reaction with the sulfhydryl group of the single cysteine,

(3) removing any unbound anti-6-keto-$PGF_{1\alpha}$-antibody and said conjugate ~~from the plasma sample~~ following incubation; and

(4) measuring ~~and correlating~~ light intensity of the ~~amount of detected~~ 6-keto- $PGF_{1\alpha}$ bound to the anti-immunoglobulin antibody; and

(5) correlating the light intensity of the bound 6-keto- $PGF_{1\alpha}$ with the ~~appropriate dosage of prostaglandin for the patient~~ amount of prostaglandin in the plasma sample.

9. (Cancelled).

10. (Cancelled).

11. (Currently Amended) The ~~assay~~ method of claim 8 wherein the plasma sample is obtained from a patient receiving intravenous prostaglandin therapy.

12. (Currently Amended) The ~~assay~~ method of claim 8 wherein ~~the~~ concentration of said conjugate in the assay is about 1×10^{-10} M.

13-21. (Cancelled)

22. (Currently Amended) A kit for measuring prostacyclin in plasma comprising:

(1) an anti-6-keto-prostaglandin $F_{1\alpha}$ (6-keto-$PGF_{1\alpha}$) antibody;

(2) an anti-immunoglobulin antibody that binds to the anti-6-keto-$PGF_{1\alpha}$-antibody; and

(3) a conjugate comprising 6-keto-$PGF_{1\alpha}$ covalently bound to an aequorin mutant; wherein said aequorin mutant comprises serine ~~substitutions~~ substitutions for all three cysteine residues as present in wild-type aequorin (Cys → Ser), wherein said aequorin mutant further comprises a single cysteine residue substituted at amino acid position 69 (Ala69 → Cys), 70 (Gly70 → Cys), 74(Gly74 → Cys) or 76 (Glu76 → Cys), and wherein the 6-keto-$PGF_{1\alpha}$ is coupled to the aequorin mutant via reaction with the sulfhydryl group of the single cysteine.